



# COMMONWEALTH of VIRGINIA

## Department of Health

### MEMORANDUM

**TO:** Members of the Housing and Environmental Standards Workgroup of the Housing Commission

**FROM:** Allen L. Knapp, Director *DR for ALK*  
Division of Onsite Sewage and Water Services, Virginia Department of Health

**DATE:** November 14, 2012

**SUBJECT:** Information requested for Alternative Onsite Sewage Systems (AOSS)

On November 1, 2012, the Housing and Environmental Standards Workgroup of the Housing Commission asked for additional information about the alternative onsite sewage system program in Virginia. The requested information and the associated data are outlined below:

1. A color coded map showing the locations and numbers of AOSS for each county.
2. The number of AOSS in the VDH's statewide database (16,714) compared to the number of AOSS in local databases, which are not yet part of the statewide database (19,355).
3. The total number of repair permits issued statewide for all system types from 2010 to present day (21,207). This data includes alternative and conventional systems.
4. AOSS performance data from the operation and maintenance (O&M) of AOSS. A few observations are described below:
  - The table reflects the number of O&M reports received since the Virginia Department of Health started the web-based reporting system in 2010. This table lists the number of reports received and not the number of systems that have had an inspection. Some of the systems have had multiple inspections. Sometimes, inspections occur without reporting.
  - Some counties have a relatively low amount of reporting while others have a relatively high amount. For example, the reporting rate in Prince William County is 15 percent, Augusta County is 68 percent, and Loudoun County is over 95 percent.

- Since VDH began receiving reports from licensed operators pursuant to the *AOSS Regulations* (12VAC5-613) in 2010, VDH has received a total of **13,232** reports. Eighty-six (86%) percent, or **11,348** of those reports concluded the systems were working properly. The operator might have provided routine maintenance during the visit. For example, the operator may have cleaned a filter on a system that was functioning properly as part of a preventive maintenance schedule.
- Seven percent (7%), or **971** reports indicated that the licensed operator performed operation and maintenance on the AOSS to return it to normal function. This work would not be considered preventative maintenance. Ninety-three (93%) percent of AOSS performed in accordance with the regulations when operation and maintenance or preventative maintenance occurred.
- Seven percent (7%), or **913** reports indicated a problem with the AOSS such that it was not functioning in accordance with the performance requirements of the AOSS and could not be returned to normal function at the time of the visit. This category includes all types of malfunctions, from the classic "sewage is discharging onto the ground" to non-performance of a disinfection device or the need to replace a mechanical component. Local health departments are responsible for following up on these reports and enforcement action is taken (when necessary) to obtain corrections.
- Some of the data has multiple reports for the same AOSS. For example, a system reported as not functioning properly usually gets a follow-up report to confirm it has returned to normal function.

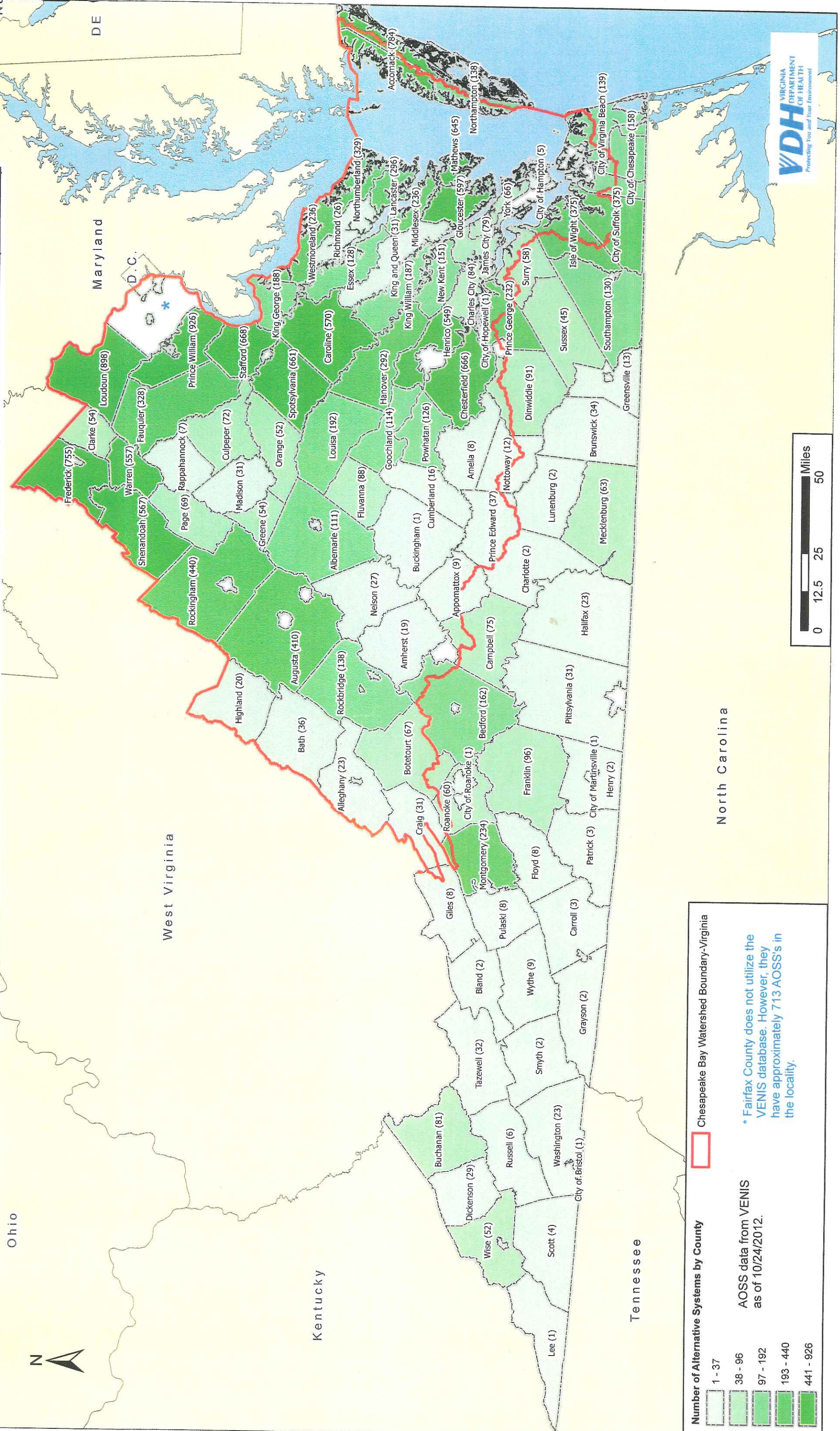
We regret that we could not attend the meeting in person and hope the attached information is helpful. Should you have additional questions, please feel free to call me at (804) 864-7462 or send an email to [Dwayne.Roadcap@vdh.virginia.gov](mailto:Dwayne.Roadcap@vdh.virginia.gov). Thank you for your time and thoughts.

On behalf of Mr. Allen Knapp, Director,

Dwayne Roadcap  
Environmental Health Coordinator  
Virginia Department of Health  
109 Governor Street, 5<sup>th</sup> Floor  
Richmond, Virginia 23219  
(804) 864-7462, (804) 221-7335



# Alternative Onsite Sewage System (AOSS) Totals as Recorded in the Statewide Database (VENIS)





**Number of AOSS inventoried in local databases versus the statewide database**

City/County	Number of systems inventoried	Number of systems in VENIS
	<u>Local</u>	<u>Statewide</u>
Accomack County	784	784
Albemarle County	89	111
Alexandria	0	0
Alleghany County	6	23
Amelia County	45	8
Amherst County	18	19
Appomattox County	6	9
Arlington County	1	1
Augusta County	433	410
Bath County	36	36
Bedford City	0	0
Bedford County	146	162
Bland County	4	2
Botetourt County	33	67
Bristol City	1	1
Brunswick County	36	34
Buchanan County	10	81
Buckingham County	12	1
Buena Vista	0	0
Campbell County	81	75
Caroline County	529	570
Carroll County	10	3
Charles City County	84	84
Charlotte County	6	2
Charlottesville	0	0
Chesapeake	220	158
Chesterfield County	534	666
Clarke County	221	54
Clifton Forge	0	0
Colonial Heights	0	0
Covington	0	0
Craig County	12	31
Culpeper County	72	72
Cumberland County	20	16
Danville	0	0
Dickenson County	24	29
Dinwiddie County	80	91
Emporia	0	0
Essex County	126	128
Fairfax City	0	0
Fairfax County *	713	0
Falls Church	0	0
Fauquier County	328	328
Floyd County	13	8
Fluvanna County	82	88
Franklin City	0	0
Franklin County	73	96
Frederick County	1,298	755
Fredericksburg	0	0
Galax	0	0
Giles County	17	8
Gloucester County	317	597
Goochland County	114	114
Grayson County	1	2
Greene County	46	54
Greensville County	6	13
Halifax County	12	23
Hampton	7	5
Hanover County	292	292
Harrisonburg	0	0
Henrico County	558	549
Henry County	4	2
Highland County	16	20
Hopewell	1	1
Isle of Wight County	304	375
James City County	183	79
King & Queen County	198	31
King George County	249	188
King William County	136	187
Lancaster County	235	296
Lee County	2	1

City/County	Number of systems inventoried	Number of systems in VENIS
	<u>Local</u>	<u>Statewide</u>
Lexington	0	0
Loudoun County **	1,436	898
Louisa County	146	192
Lunenburg County	0	2
Lynchburg	0	0
Madison County	31	31
Manassas	0	0
Manassas Park	0	0
Martinsville	1	1
Mathews County	578	645
Mecklenburg County	195	63
Middlesex County	138	236
Montgomery County	343	234
Nelson County	12	27
New Kent County	151	151
Newport News	2	0
Norfolk	0	0
Northampton County	138	138
Northumberland County	210	329
Norton	0	0
Nottoway County	25	12
Orange County	52	52
Page County	148	69
Patrick County	4	3
Petersburg	0	0
Pittsylvania County	29	31
Poquoson	0	0
Portsmouth	0	0
Powhatan County	136	126
Prince Edward County	44	37
Prince George County	176	232
Prince William County	1,051	926
Pulaski County	174	8
Radford	0	0
Rappahannock County	7	7
Richmond City	0	0
Richmond County	34	26
Roanoke City	1	1
Roanoke County	36	60
Rockbridge County	120	138
Rockingham County	250	440
Russell County	14	6
Salem City	1	1
Scott County	3	4
Shenandoah County	767	567
Smyth County	6	2
South Boston	0	0
Southampton County	127	130
Spotsylvania County	820	661
Stafford County	713	668
Staunton	0	0
Suffolk	639	503
Surry County	48	58
Sussex County	75	45
Tazewell County	15	32
Virginia Beach	230	139
Warren County	1,028	557
Washington County	23	23
Waynesboro	0	0
Westmoreland County	121	236
Williamsburg	4	0
Winchester	0	0
Wise County	71	52
Wythe County	4	9
York County	94	66
<b>Total</b>	<b>19,355</b>	<b>16,714</b>

\* Fairfax does not use VENIS

\*\*Loudoun has separate database

11/14/2012

DATA: All Repairs Since January 1, 2010

Health District	County/City	Repairs 1/1/2010 to Present
Eastern Shore	Accomack	967
Thomas Jefferson	Albemarle	516
Alleghany Roanoke	Alleghany County	39
Piedmont	Amelia	38
Central	Amherst County	275
Central	Appomattox County	87
Central Shenandoah	Augusta	497
Central Shenandoah	Bath	38
Central	Bedford City	7
Central	Bedford County	684
Mount Rogers	Bland County	70
Alleghany Roanoke	Botetourt County	194
Mount Rogers	Bristol City	3
Southside	Brunswick Co.	129
Cumberland Plateau	Buchanan	119
Piedmont	Buckingham	56
Central	Campbell County	376
Rappahannock	Caroline County	221
Mount Rogers	Carroll County	345
Chickahominy	Charles City	80
Piedmont	Charlotte	126
Thomas Jefferson	Charlottesville City	5
Chesapeake	Chesapeake	141
Chesterfield	Chesterfield	589
Chesterfield	City of Colonial Heights	1
Lord Fairfax	Clarke	114
Alleghany Roanoke	Craig County	60
Rappahannock-Rapidan	Culpeper	269
Piedmont	Cumberland	49
Pittsylvania Danville	Danville	4
Cumberland Plateau	Dickenson	106
Crater	Dinwiddie	189
Crater	Emporia	1
Three Rivers	Essex	107
Rappahannock-Rapidan	Fauquier	477
New River	Floyd	205
Thomas Jefferson	Fluvanna	177
West Piedmont	Franklin	544
Western Tidewater	Franklin City	4
Lord Fairfax	Frederick	166
Rappahannock	Fredericksburg City	1
New River	Giles	119
Three Rivers	Gloucester	402
Chickahominy	Goochland	191
Mount Rogers	Grayson County	86
Thomas Jefferson	Greene	177
Crater	Greensville	33
Southside	Halifax Co.	288
Hampton	Hampton	5
Chickahominy	Hanover	319
Henrico	Henrico	175
West Piedmont	Henry	250
Central Shenandoah	Highland	54
Western Tidewater	Isle of Wight	157
Peninsula	James City County	110
Three Rivers	King & Queen	109
Rappahannock	King George County	191

Health District	County/City	Repairs 1/1/2010 to Present
Three Rivers	King William	111
Three Rivers	Lancaster	198
Lenowisco	Lee County	156
Loudoun	Loudoun	776
Thomas Jefferson	Louisa	400
Piedmont	Lunenburg	31
Central	Lynchburg City	22
Rappahannock-Rapidan	Madison	183
Three Rivers	Mathews	311
Southside	Mecklenburg Co.	313
Three Rivers	Middlesex	194
New River	Montgomery	266
Thomas Jefferson	Nelson	201
Chickahominy	New Kent	181
Peninsula	Newport News	4
Eastern Shore	Northampton	253
Three Rivers	Northumberland	360
Piedmont	Nottoway	66
Rappahannock-Rapidan	Orange	165
Lord Fairfax	Page	213
West Piedmont	Patrick	222
Crater	Petersburg	3
Pittsylvania Danville	Pittsylvania	399
Chesterfield	Powhatan	279
Piedmont	Prince Edward	153
Crater	Prince George	188
Prince William	Prince William County	337
New River	Pulaski	106
Rappahannock-Rapidan	Rappahannock	33
Three Rivers	Richmond	32
Chesterfield	RICHMOND CITY	4
Alleghany Roanoke	Roanoke City	19
Alleghany Roanoke	Roanoke County	165
Central Shenandoah	Rockbridge	247
Central Shenandoah	Rockingham	311
Cumberland Plateau	Russell	261
Alleghany Roanoke	Salem City	4
Lenowisco	Scott County	162
Lord Fairfax	Shenandoah	272
Mount Rogers	Smyth County	141
Western Tidewater	Southampton	240
Rappahannock	Spotsylvania County	589
Rappahannock	Stafford County	444
Central Shenandoah	Staunton	3
Western Tidewater	Suffolk	140
Crater	Surry	45
Crater	Sussex	60
Cumberland Plateau	Tazewell	169
Virginia Beach	Virginia Beach	51
Lord Fairfax	Warren	189
Mount Rogers	Washington County	316
Central Shenandoah	Waynesboro	1
Three Rivers	Westmoreland	161
Lenowisco	Wise County	124
Mount Rogers	Wythe County	155
Peninsula	York County	36
<b>TOTAL</b>		<b>21,207</b>

**Operation and Maintenance Reports Received by Condition on Inspection**  
**July 1, 2010 through November 7, 2012**

City or County in Which System is Located	Condition at Time of Inspection			
	Not Functioning Normally	Returned to Normal Function	Functioning Properly	Total Reports
Accomack County	10	3	114	127
Albemarle County	7	4	55	66
Alleghany County		3	15	18
Amelia County	1		30	31
Amherst County		2	8	10
Appomattox County			5	5
Augusta County	31	37	522	590
Bath County		2	29	31
Bedford			1	1
Bedford City			4	4
Bedford County		1	24	25
Bland County			3	3
Botetourt County	2	2	23	27
Bristol			1	1
Brunswick County	1		7	8
Campbell County	9	1	36	46
Caroline County	47	8	467	522
Carroll County	1	1	6	8
Charles City County	9	3	46	58
Charlotte County			1	1
Charlottesville			1	1
Chesapeake	19	26	303	348
Chesterfield County	38	25	407	470
Clarke County	11	13	106	130
Colonial Heights			1	1
Culpeper County	3	3	88	94
Cumberland County			2	2
Dinwiddie County	3	1	13	17
Essex County	5	8	27	40
Fairfax City		4	21	25
Fairfax County	34	85	355	474
Fauquier County	9	21	187	217
Floyd County			4	4
Fluvanna County		10	28	38
Franklin City			1	1
Franklin County			17	17
Frederick County	82	95	1079	1256
Fredericksburg	1		23	24
Giles County			6	6
Gloucester County	12	21	48	81
Goochland County	9	5	83	97
Grayson County			1	1
Greene County	4	3	29	36
Greensville County		1	4	5
Halifax County			2	2
Hampton			1	1
Hanover County	30	15	252	297
Harrisonburg			2	2
Henrico County	46	17	356	419
Highland County	1		12	13
Hopewell		1	1	2
Isle of Wight County	13	8	102	123
James City County	6		25	31
King & Queen County	3		4	7
King George County	5	1	146	152
King William County	25	9	75	109
Lancaster County	4	4	30	38

City or County in Which System is Located	Condition at Time of Inspection			
	Not Functioning Normally	Returned to Normal Function	Functioning Properly	Total Reports
Lexington			2	2
Loudoun County	43	47	1037	1127
Louisa County	11	5	163	179
Lunenburg County			2	2
Lynchburg			1	1
Madison County	3	3	26	32
Manassas	5	3	27	35
Manassas Park			5	5
Mathews County	7	29	63	99
Mecklenburg County	1		7	8
Middlesex County	4	6	25	35
Montgomery County	7	6	237	250
Montgomery County		4	16	20
Nelson County	1	3	9	13
New Kent County	22	8	118	148
Northampton County	1		9	10
Northumberland County	2	2	33	37
Nottoway County			4	4
Orange County	1	3	61	65
Page County	7	19	142	168
Patrick County			2	2
Petersburg	1		7	8
Pittsylvania County	1	1	9	11
Portsmouth			2	2
Powhatan County	11	4	113	128
Prince Edward County			3	3
Prince George County	8	8	83	99
Prince William County	58	60	614	732
Pulaski County		1	34	35
Rappahannock County		2	5	7
Richmond City	3		3	6
Richmond County		1	1	2
Roanoke City			5	5
Roanoke County			9	9
Rockbridge County	8	13	85	106
Rockingham County	33	36	401	470
Salem			2	2
Scott County	1		1	2
Select County			1	1
Shenandoah County	29	64	379	472
Smyth County			1	1
Southampton County	5	5	31	41
Spotsylvania County	29	14	687	730
Stafford County	12	3	602	617
Suffolk	18	15	71	104
Surry County	4		15	19
Sussex County	4	1	15	20
Tazewell County		1	8	9
Virginia Beach	10	14	152	176
Warren County	70	136	707	913
Washington County	1	1	2	4
Westmoreland County	4	7	45	56
Williamsburg			8	8
Winchester			3	3
Wise County			1	1
Wythe County	1		1	2
York County	6	3	14	23
<b>Grand Total</b>	<b>913</b>	<b>971</b>	<b>11348</b>	<b>13232</b>